



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/530,500

10/31/2005

Hikaru Nishitani

92478-1900

6681

21611 7590 04/03/2008
SNELL & WILMER LLP (OC)
600 ANTON BOULEVARD
SUITE 1400
COSTA MESA, CA 92626

EXAMINER

PERRY, ANTHONY T

ART UNIT

PAPER NUMBER

2879

MAIL DATE

DELIVERY MODE

04/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,500	Applicant(s) NISHITANI ET AL.	
	Examiner ANTHONY T. PERRY	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-68 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/06/05, 1/31/07, 2/25/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Si is one of the Group IV elements. Since none of the Group IV elements are used, as required by claim 1, the limitation of Si not used is already present.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

How can the phosphor members include Si when the independent claim from which claim 12 depends states that the phosphor members contain a Group IV element?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 11, 16, 19, 25-27, 35-36, 41, and 63-66 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (US 2002/0089284).

Art Unit: 2879

Regarding claims 1 and 11, Hayashi discloses a plasma display panel (100) in figure 1 in which a pair of substrates (27 and 32) are disposed so as to oppose each other and have a discharge space therebetween and in which a dielectric protection layer including MgO (28) and phosphor layers for red, green, and blue (21) respectively are formed so as to face the discharge space, wherein none of phosphor members included in the phosphor layers contain, in a composition thereof, a Group IV element (for example, see Fig. 1 and paragraph 0041).

Regarding claim 2, Hayashi teaches an embodiment wherein none of the phosphor layers are made of a substance that contains any Group IV element (for example, see paragraph 0041).

Regarding claims 16 and 19, Hayashi discloses a plasma display panel (100) in which a pair of substrates (27 and 32) are disposed so as to oppose each other and have a discharge space therebetween and in which a dielectric protection layer including MgO (28) and phosphor layers for red, green, and blue (21) respectively are formed so as to face the discharge space, wherein each of the phosphor layers contains a phosphor member that includes at least one transition metal (for example, see Fig. 1 and paragraph 0041).

Regarding claim 25, Hayashi discloses a plasma display panel in which a pair of substrates (27 and 32) are disposed so as to oppose each other and have a discharge space therebetween and in which a dielectric protection layer including MgO (28) and phosphor layers for red, green, and blue (21) respectively are formed so as to face the discharge space, wherein none of phosphor members included in the phosphor layers contain, in a composition thereof, any member of the group consisting of alkali metals and alkaline earth metals other than Mg (for example, see Fig. 1 and paragraph 0041).

Art Unit: 2879

Regarding claim 26, Hayashi discloses an embodiment wherein none of the phosphor layers are made of a substance that contains any member of the group consisting of alkali metals and alkaline earth metals other than Mg (for example, see Fig. 1 and paragraph 0041).

Regarding claim 27, Hayashi discloses a plasma display panel in which a pair of substrates (27 and 32) are disposed so as to oppose each other and have a discharge space therebetween and in which a dielectric protection layer including MgO (28) and phosphor layers for red, green, and blue (21) respectively are formed so as to face the discharge space, wherein each of the phosphor layers contains at least one member of the group consisting of alkali metals and alkaline earth metals other than Mg (for example, see Fig. 1 and paragraph 0041).

Regarding claim 35, Hayashi discloses a plasma display panel in which a pair of substrates (27 and 32) are disposed so as to oppose each other and have a discharge space therebetween and in which a dielectric protection layer including MgO (28) and phosphor layers for red, green, and blue (21) respectively are formed so as to face the discharge space, wherein none of phosphor members included in the phosphor layers contain, in a composition thereof, any member of the group consisting of Group IV elements, W, Mn, Fe, Co, Ni, alkali metals, and alkaline earth metals other than Mg (for example, see Fig. 1 and paragraph 0041).

Regarding claim 36, Hayashi discloses an embodiment wherein none of the phosphor layers are made of a substance that contains any member of the group consisting of Group IV elements, W, Mn, Fe, Co, Ni, alkali metals, and alkaline earth metals other than Mg (for example, see paragraph 0041).

Art Unit: 2879

Regarding claims 41 and 63-66, Hayashi teaches the dielectric protection layer contains at least one member of the group consisting of alkali metals and alkaline earth metals (for example, see paragraph 0052).

Claims 3, 6, 13-15, 48, and 61-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (JP 2001-107045).

Regarding claim 3, Suzuki discloses a plasma display panel in which a pair of substrates are disposed so as to oppose each other and have a discharge space therebetween and in which a dielectric protection layer including MgO and phosphor layers for red, green, and blue respectively are formed so as to face the discharge space, wherein each of the phosphor layers contains at least one Group IV element (for example, see Fig. 4 and paragraph 0007).

Regarding claim 6, Suzuki teaches a phosphor member included in at least one of the phosphor layers contains, in a composition thereof, at least one Group IV element (for example, see paragraph 0007).

Regarding claim 13, Suzuki teaches at least one Group IV element contained is a compound being distinct from any phosphor members included in the phosphor layer (for example, see paragraph 0007).

Regarding claim 14, Suzuki discloses a plasma display panel in which a pair of substrates are disposed so as to oppose each other and have a discharge space therebetween and in which a dielectric protection layer including MgO and phosphor layers for red, green, and blue respectively are formed so as to face the discharge space, wherein none of phosphor members included in the phosphor layers contain, in a composition thereof, any member of the group consisting of W, Mn, Fe, Co, and Ni (for example, see paragraph 0035-0036).

Regarding claim 15, Suzuki teaches none of the phosphor layers made of a substance that contains any member of the group consisting of W, Mn, Fe, Co, and Ni (for example, see paragraph 0035-0036).

Regarding claim 48, Suzuki teaches the Group IV element is Si (for example, see paragraph 0035-0036).

Regarding claims 61-62, Suzuki teaches the dielectric protection layer contains at least one member of the group consisting of alkali metals and alkaline earth metals (for example, see Fig. 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2001-107045) in view of Kaneda et al. (US 5,156,764).

Regarding claims 4-5 and 7, Suzuki discloses the plasma display panel of claim 3, but does not specifically state that a content ratio of said at least one Group IV element in each of the phosphor layers between 100 mass ppm and 5,000 mass ppm, such that all of the phosphor layers would have substantially the same content ratios. However, Kaneda et al. teach providing phosphors with group IV elements within the claimed range in order to improve the luminance and lifetime of the phosphors (for example, see col. 3, lines 13-20).

Art Unit: 2879

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Group IV element in an amount between 100 mass ppm and 5000 mass ppm in order to increase the luminance and the lifetime of the phosphors.

Regarding claim 8, Kaneda teaches the content ratio of the Group IV element not having variations among the phosphor layers greater than 20,000 mass ppm.

Same reasoning for combination given in the rejection of claim 7, above, applies.

Regarding claim 9, Suzuki teaches each of the phosphor layers, having a phosphor member containing, in a composition thereof, at least one Group IV element is selected so as to be included in the phosphor layer (for example, see paragraph 0007).

Regarding claim 10, Suzuki teaches the at least one Group IV element contained in the composition of the phosphor member is in common with all of the phosphor layers (for example, see paragraphs 0035-0036).

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (US 2002/0089284) in view of Ashizawa et al (JP 11-95420).

Regarding claims 17-18, Hayashi discloses the plasma display panel of claim 16, but does not specifically recite the content ratio of said at least one transition metal in each of the phosphor layers is between 500 mass ppm and 30,000 mass ppm inclusive. However, Ashizawa teach providing the transition metal in the phosphor within the claimed range in order to permit the formation of the patterns of the phosphor material having uniform geometry with high precision and good workability (for example, see the abstract). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide transition

Art Unit: 2879

metal within the claimed range in order to ensure that the formation of the phosphor layers have a uniform geometry and good workability.

Claims 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (US 2002/0089284) in view of Kaneda et al. (US 5,156,764).

Regarding claims 28-29, 31, and 34, Hayashi discloses the plasma display panel of claim 27, but does not specifically state that a total content ratio of said at least one member in each of the phosphor layers is within a range between 1,000 mass ppm and 60,000 mass ppm inclusive. However, Kaneda et al. teach providing phosphors with the at least one element (barium) within the claimed range, such that the content ratio is substantially the same for all the phosphor layers, in order to improve the luminance and lifetime of the phosphors (for example, see col. 3, lines 13-20).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the at least one element in an amount between 1000 mass ppm and 60000 mass ppm inclusive, in order to increase the luminance and the lifetime of the phosphors..

Regarding claim 30, Hayashi teaches the phosphor layers containing at least one member of the group consisting of alkali metals and alkaline metals other than Mg (for example, see paragraph 0041).

Regarding claim 32, Kaneda teaches the variation between the phosphor layers with respect to a total content ratio of said at least one member being no larger than 40,000 mass ppm (for example, see col. 3, lines 13-20).

Regarding claim 33, Hayashi teaches the phosphor layers containing at least one member of the group consisting of alkali metals and alkaline metals other than Mg (for example, see paragraph 0041).

Claims 37-38 and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (US 2002/0089284) in view of Kim et al. (US 6,475,049).

Regarding claim 37, Hayashi does not specifically state that the dielectric protection layer contains at least one Group IV element. However, dielectric protection layers including such an element is known in the art, as shown in Kim, which discloses a protection layer (104) that is made from MgO and one Group IV element (for example, see col. 1, lines 49-52). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have used a protection layer including a group IV element, as taught by Kim, since the selection of known materials for a known purpose is within the skill of the art.

Regarding claim 38, the combined invention of Hayashi and Kim does not specifically state the content ratio of said at least one Group IV element in the dielectric protection layer. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an appropriate range for the content ratio of the Group IV element provided in the dielectric protection layer, since optimization of workable ranges is considered within the skill of the art.

Regarding claims 51-54, Hayashi does not specifically state that the dielectric protection layer contains at least one Group IV element. However, dielectric protection layers including such an element is known in the art, as shown in Kim, which discloses a protection layer (104) that is made from MgO and one Group IV element (for example, see col. 1, lines 49-52). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have used a protection layer including a group IV element, as taught by Kim, since the selection of known materials for a known purpose is within the skill of the art.

Claims 39-40 and 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (US 2002/0089284) in view of Hasegawa et al. (US 5,454,861).

Regarding claim 39, Hayashi does not specifically state that the dielectric protection layer contains a transition metal. Hasegawa et al. disclose a dielectric protection layer that includes a transition metal (for example, see the Abstract). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have used a protection layer including a transition metal, as taught by Hasegawa, since the selection of known materials for a known purpose is within ordinary skill of the art.

Regarding claim 40, the combined invention of Hayashi and Hasegawa do not specifically state the content ratio of the transition metal in the dielectric protection layer. However, it has been held that where the general conditions of a claim are disclosed in the prior

Art Unit: 2879

art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an appropriate content ratio of the transition metal provided in the dielectric protection layer, since optimization of workable ranges is considered within the skill of the art.

Regarding claims 57-60, Hayashi does not specifically state that the dielectric protection layer contains a transition metal. Hasegawa et al. disclose a dielectric protection layer that includes a transition metal (for example, see the Abstract). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have used a protection layer including a transition metal, as taught by Hasegawa, since the selection of known materials for a known purpose is within ordinary skill of the art.

Claims 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2001-107045) in view of Kim et al. (US 6,475,049).

Regarding claims 49-50, Suzuki does not specifically state that the dielectric protection layer contains at least one Group IV element. However, dielectric protection layers including such an element is known in the art, as shown in Kim, which discloses a protection layer (104) that is made from MgO and one Group IV element (for example, see col. 1, lines 49-52). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to

Art Unit: 2879

have used a protection layer including a group IV element, as taught by Kim, since the selection of known materials for a known purpose is within the skill of the art.

Claims 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2001-107045) in view of Hasegawa et al. (US 5,454,861).

Regarding claims 55-56, Suzuki does not specifically state that the dielectric protection layer contains a transition metal. Hasegawa et al. disclose a dielectric protection layer that includes a transition metal (for example, see the Abstract). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have used a protection layer including a transition metal, as taught by Hasegawa, since the selection of known materials for a known purpose is within ordinary skill of the art.

Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (US 2002/0089284) in view of Hirano et al. (US 2003/0030377).

Regarding claim 20, Hayashi does not specifically teach a transition metal selected from the group consisting of W, Mn, Fe, Co, and Ni. However, such a material is known in the art, as evidenced by Hirano, which discloses a plasma display panel with a protective layer that is made from MgO and includes at least one transition metal (for example, see paragraph 0019). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to

Art Unit: 2879

have used a protective layer including a transition metal, as the one disclosed by Hirano, since the selection of known materials for a known purpose is within the skill of the art.

Regarding claim 21, the combined reference of Hayashi and Hirano do not specifically state a content ratio of said at least one transition metal in each of the phosphor layers. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an appropriate range for the content ratio of the transition metal in the layers, since optimization of workable ranges is considered within the skill of the art.

Regarding claim 22, the combined reference of Hayashi and Hirano do not specifically recite that the variations among the phosphor layers with respect to the content ratio of said at least one transition metal are no larger than 40,000 mass ppm. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a limit to the variations among the phosphor layers with respect to the content ratio of the transition metal, since optimization of workable ranges is considered within the skill of the art.

Regarding claim 23, the combined invention of Hayashi and Hirano teaches each of the phosphor layers containing a phosphor member having at least one transition metal is selected so as to be included in the phosphor layer (for example, see paragraph 0041).

Regarding claim 24, the combined invention of Hayashi and Hirano teaches at least one transition metal contained in the composition of the phosphor member is in common with all of the phosphor layers (for example, see paragraph 0041).

Claims 42, 44, and 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2001-107045) in view of Kim et al. (WO 01/31673).

Regarding claims 42, 44, and 67-68, Suzuki does not specifically teach that at least part of a surface of one or more of the phosphor layers facing the discharge space is covered with a phosphor protection layer, wherein the phosphor protection layer (i) having an ultraviolet ray transmittance rate of 80% or higher, and (ii) having a function of inhibiting one or more of elements included in the one or more phosphor layers that are to degrade discharge properties of the dielectric protection layer from dispersing into the discharge space.

However, Kim teaches a plasma display panel wherein all of the phosphor layers (34) are covered with a phosphor protection layer (40) (for example, see Fig. 4). Kim teaches that without this layer, phosphor particles deteriorate (for example, see page 4, lines 9-13). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to cover the surface of one or more of the phosphor layers facing the discharge space with a phosphor protection layer, the phosphor protection layer (i) having an ultraviolet ray transmittance rate of 80% or higher, and (ii) having a function of inhibiting one or more of elements included in the one or more phosphor layers that are to degrade discharge properties of the dielectric protection layer from dispersing into the discharge space, as taught by Kim, in order to prevent the deterioration of the phosphor layers.

Claim 43 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2001-107045) in view of Kim et al. (WO 01/31673), as applied to claim 42, above, and further in view of Kaneda et al. (US 5,156,764).

Regarding claim 43, the combined invention of Suzuki and Kim does does not specifically state that a content ratio of said at least one Group IV element in each of the phosphor layers of at least 1000 mass ppm. However, Kaneda et al. teach providing phosphors with group IV elements of at least 1000 mass ppm in order to improve the luminance and lifetime of the phosphors (for example, see col. 3, lines 13-20). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Group IV element in an amount of at least 1000 mass ppm, in order to increase the luminance and the lifetime of the phosphors.

Claims 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2001-107045) in view of Kim et al. (WO 01/31673) and further in view of Shirozu (US 2002/0050792).

Regarding claim 45, the combined invention of Suzuki and Kim do not specifically teach a main component of the phosphor protection layer being MgF_2 . However, such a protection layer is known in the art, as evidenced by the Shirozu reference, which teaches display panel with a protection layer over the phosphor layer that is made from magnesium fluoride (for example, see paragraph 0087 and 0092). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have used a phosphor protection layer of

Art Unit: 2879

magnesium fluoride, as taught by Shirozu, since the selection of known materials for a known purpose is within the skill of the art.

Regarding claims 46-47, the combined invention of Suzuki and Kim do not specifically teach the phosphor protection layer having a lamination structure in which a first layer is formed of MgO and a second layer is formed of MgF_2 . However, such a protection layer is known in the art, as evidenced by the Shirozu reference, which teaches display panel with a protection layer over the phosphor layer that is made of a first layer, facing the discharge space, and formed of MgO and a second layer formed of MgF_2 (for example, see paragraph 0087 and 0092). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have used a phosphor protection layer of magnesium fluoride, as taught by Shirozu, since the selection of known materials for a known purpose is within the skill of the art.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is **(571) 272-2459**. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. **The fax phone number for this Group is (571) 273-8300.**

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Anthony Perry/

Anthony Perry
Patent Examiner
Art Unit 2879
March 30, 2008

/Nimeshkumar Patel/
Supervisory Patent Examiner, Art Unit 2879